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#9 Declaration
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H.F.L.



Donald L. Marks

DATE: 6/23/00

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re:	Patent Application of Stephen J. Meyer, <i>et al.</i>	: Group Art Unit: 3752 : : :
Appln. No.:	09/196,680	: Examiner: Sean O'Hanlon : :
Filed:	November 20, 1998	: : :
For:	ORDINARY HAZARD EXTENDED COVERAGE SIDEWALL SPRINKLERS AND SYSTEMS	: Attorney Docket : No. 5903-157 :

DECLARATION OF JAMES GOLINVEAUX

I, James Golinveaux, hereby declare and state:

1. I am the Vice President of Research and Development for Central Sprinkler Company ("CSC") and have been since October 1999. Between early 1993 and October 1999, I was Vice President of Engineering for CSC. I was Director and then Vice President of Technical Services for CSC from the time I was first employed by CSC in October, 1991 until my promotion to Vice President of Engineering.
2. Prior to my employment by CSC, I was Chief Engineer for Allied Fire Protection Company of Oakland, California, a fire protection contractor, for approximately nine and one-half (9½) years. My duties as Chief Engineer were to design and detail and supervise other designers in designing and detailing sprinkler systems for installation in various types of buildings, and to estimate the costs of such systems to potential purchasers.
3. I am certified by the National Institute for Certification in Engineering Technology as a Senior Engineering Technician Level 4, the highest level certified, based upon

ten (10) years of experience in the sprinkler design field. I am also a voting member of the National Fire Protection Association.

4. National Fire Protection Association ("NFPA") Standard for the Installation of Sprinkler Systems NFPA-13, Underwriters' Laboratories, Inc. ("UL") standards for Automatic Sprinklers for Fire Protection Service, for Residential Sprinklers for Fire Protection Service and Early-Suppression Fast Response Sprinklers, UL 199, UL 1626 and UL 1767, respectively, and Factory Mutual Research Corporation ("Factory Mutual") Approval Standards for Automatic Sprinklers for Fire Protection Services, for Large Drop Sprinklers and for Early Suppression Fast Response Sprinklers are published and recognized as industry standards for the design of sprinkler systems and sprinklers, respectively, for the types of fire hazards identified in NFPA-13. On information and belief, light and ordinary hazard occupancies, which might benefit from this extended coverage invention, encompass the majority of all potential commercial (industrial and residential) sprinkler installations in the United States.

5. On information and belief, UL is the most widely recognized and used laboratory in the United States for obtaining listings of sprinklers under NFPA-13. Most manufacturers obtain listings for their NFPA-13 sprinklers under UL-199, the Standard for Automatic Sprinklers for Fire Protection Service. The second most widely used laboratory use in the United States for obtaining such listings is Factory Mutual.

6. Typically, NFPA-13 and/or other NFPA standards become mandated in a city or other municipality when the city or municipality adopts a building code which refers to the NFPA standard or standards. These codes include the Uniform Building Code, the National

Building Code and the Southern Building Code. On information and belief, many insurance companies in the United States will only insure sprinklered buildings or offer sprinklered building insurance premium discounts if Factory Mutual listed or approved sprinklers are used. Listings or approvals by both testing organizations, UL and Factory Mutual, are therefore required for the most widespread commercial use of such sprinklers in the United States and the broadest acceptance in the art.

7. On information and belief, in or about 1955, the concept of and requirements for modern standard sprinklers were adopted by the fire protection industry. The 1989 Edition of NFPA-13 was the first edition to approve an extra-large orifice of 5/8 inch nominal diameter and an 11-11.5 K-factor as a standard size for standard spray sprinklers. UL adopted the 5/8 inch, extra-large orifice as a standard size for testing and listing of standard sprinklers under its Standard for Safety UL 199 "Automatic Sprinklers for Fire Protection Service" almost immediately after the NFPA adoption. Factory Mutual did not recognize 5/8 inch or extra-large orifice as a standard size for standard sprinklers until 1993, after Factory Mutual had completed its own testing of such sprinklers.

8. The 1989 Edition of NFPA-13 had an effective date of February 2, 1989 and was in effect as of September 30, 1990. It was ultimately succeeded by the 1991 Edition having an effective date of August 16, 1991. The 1991 Edition also recognized extra-large orifice (5/8 inch nominal) as a standard size for standard spray sprinklers. Also, ordinary hazard water densities of 0.16 to 0.21 GPM/ft² in the 1989 Edition were changed to 0.15 to 0.20 GPM/ft² in the 1991 Edition.

9. One of ordinary skill in the art, who is one who would have been

knowledgeable of the automatic sprinkler art at the time the invention claimed in the above-captioned Application was made, would have known that, generally, "extended coverage" sprinklers, including extended coverage sidewall sprinklers, have been allowed since 1973. Further, those of ordinary skill in the art would have known during the relevant period that in 1983, the technical committee of NFPA-13 amended Section 1-2 to add the following sentence: "Nothing in this standard is intended to restrict new technologies or alternate arrangements, providing the level of safety prescribed by the standard is not lowered." Based on the addition of this sentence to Section 1-2, new technologies such as larger sprinkler orifice sizes and, accordingly, higher K-factors, could be tested for use in sprinklers. However, on information and belief, no manufacturer or any other entity other than the assignee of the above-captioned application, successfully fire tested or even developed an orifice size larger than 17/32 inches and a K-factor greater than 8.0 for a sidewall sprinkler. There is no evidence prior to the demonstration of Applicants' invention that the use of larger orifices and lower minimum pressures would have provided a sidewall sprinkler that could effectively fight a fire.

10. During the relevant period, those of ordinary skill in the art believed that higher water pressures were required to project a spray pattern over an extended coverage area using sidewall sprinklers as stated in claim 1. Those of ordinary skill in the art correlate higher pressures with lower K-factors, as opposed to the higher K-factors recited in the claims. The operating pressures for sprinklers having a K-factor greater than 9 is significantly lower than that of the previous industry standard sidewall sprinklers, which have an orifice size of 17/32 inches and a K-factor of 8.0. Thus, notwithstanding that K-factors greater than 9, as claimed in the above-captioned application, were acceptable for use since 1983 (based on the above-stated

change to NFPA-13), those of ordinary skill in the art believed that because sidewall sprinklers required higher operating pressures than ceiling sprinklers, such higher K-factors would not work for sidewall sprinklers. Thus, it would not have been obvious to one of ordinary skill in the art to employ a K-factor greater than 9 in a sidewall sprinkler as it was contrary to custom and understanding in the industry. Accordingly, on information and belief, the named inventors of the above-captioned application were the first to develop and successfully fire test a sidewall sprinkler capable of achieving a spray pattern of water droplets dispersed over a generally horizontal, generally rectangularly-shaped extended coverage area of more than one hundred square feet using a K-factor greater than 9.

11. Given the foregoing that would have been known by one of ordinary skill in the art during the relevant time period, one of ordinary skill in the art would have selected a K-factor no greater than 8.0 for sidewall sprinklers, the maximum that had been shown and therefore believed effective for providing extended coverage in sidewall sprinklers.

12. I am familiar with U.S. Patent No. 5,609,211 (Meyer). With regard to the Examiner's reliance on Meyer, such reliance is misplaced. Meyer discloses only an extended coverage ceiling sprinkler, rather than a sidewall sprinkler. This distinction is significant, based on the understanding of those of ordinary skill in the art during the relevant time period, as discussed above. Thus, although Meyer describes a sprinkler having a K-factor greater than 9 and up to about 15, it does so in a context which was believed by those of ordinary skill in the art to be inapplicable to sidewall sprinklers as discussed below in Paragraph 14..

13. I am familiar with U.S. Patent No. 4,296,816 (Fischer). Significantly, notwithstanding that Fischer describes a sidewall sprinkler, no mention is made of a K-factor in

that reference.

14. It was recognized by those of ordinary skill in the art when the subject matter of the above-captioned application was made that sidewall sprinklers required higher operating pressures which were understood to be achievable only using K-factors up to 8.0.

15. Commercial embodiments of the sidewall sprinkler claimed in the above-captioned application have been a commercial success based on sales and acceptance in the industry. Building owners and end users have significantly benefited from these commercial embodiments insofar as the sprinklers permit flexibility in designs and protection of ordinary hazard areas from the wall where ceiling sprinklers would be undesirable or impractical.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 6/23/00


JAMES GOLINVEAUX